Address used in physical layer

This used in both hardware and software for accessing data. Software, however, does not use physical addresses directly; instead, it accesses memory using a virtual address. A hardware component known as the memory management unit (MMU) is responsible for translating a virtual address to a physical address.In networking, physical address refers to a computer's MAC address, which is a unique identifier associated with a network adapter that is used for identifying a computer in a network.Physical address is basically the same as MAC address or media access control address. Physical address are used to communicate between devices on Ethernet networks. Every device must have a unique physical address.

In order to communicate or transfer the data from one computer to another computer we need some address. In Computer Network various types of address are introduced; each works at different layer. There are basically four types of addresses :physical address,logical address ,port address and specific address.

Physical layer uses physical address.In IT, a physical address refers to either a memory location, identified in the form of a binary number, or a media access control (MAC) address. A physical address is also known as a binary address or a real address. In computing, physical address refers to a memory address or the location of a memory cell in the main memory. It is is often referred to as its MAC (Media Access Control) address. When user send a request to a remote host's IP address (access a website for instance) user’s computer send that request to his/her LAN's gateway (your router) and it uses its physical (MAC) address as the destination of the message but the logical (IP) address of the host for its final destination. The router then forwards that message onward and knows who to return the reply to. An Ethernet physical address is six bytes long and consists of six hexadecimal numbers, usually separated by colon characters (:). For example 08:56:27:6f:2b:9c it uniquely identify the devicesover network.

Common protocols used in physical layer

OSI protocols are a family of standards for information exchange. These were developed and designed by the International Organization of Standardization (ISO). In 1977 the ISO model was introduced, which consisted of seven different layers. This model has been criticized because of its technicality and limited features. Each layer of the ISO model has its own protocols and functions. The OSI protocol stack was later adapted into the TCP/IP stack. In some networks, protocols are still popular using only the data link and network layers of the OSI model. The OSI protocol stack works on a hierarchical form, from the hardware physical layer to the software application layer.

Physical Layer deals with the hardware of networks such as cabling. The major protocols used by this layer include

* Bluetooth,
* PON
* OTN
* DSL
* IEEE.802.11
* IEEE.802.3
* L431
* TIA 449

Brief explanation of one protocol

*IEEE.802.11* :EEE 802.11 refers to the set of standards that define communication for wireless LANs (wireless local area networks, or WLANs). The technology behind 802.11 is branded to consumers as Wi-Fi.As the name implies, IEEE 802.11 is overseen by the IEEE, specifically the IEEE LAN/MAN Standards Committee (IEEE 802). The current version of the standard is IEEE 802.11-2007.

In other words, IEEE 802.11 is the set of technical guidelines for implementing Wi-Fi. Selling products under this trademark is overseen by an industry trade association by the name of the Wi-Fi Alliance.

IEEE 802.11 has its roots from a 1985 decision by the U.S. Federal Commission for Communication that opened up the ISM band for unlicensed use. The standard was formally released in 1997. That original standard was called IEEE 802.11-1997 and is now obsolete.

It's common to hear people refer to "802.11 standards" or the "802.11 family of standards." However, to be more precise, there is only one standard (IEEE 802.11-2007) but many amendments. Commonly known amendments include 802.11a, 802.11b, 802.11g, and 802.11n.

References

* <https://www.techopedia.com/definition/24961/osi-protocols>
* <https://www.quora.com/How-does-a-physical-address-work>
* <https://www.techopedia.com/definition/24967/ieee-80211>